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10/538,394	12/27/2005	James Clyde Hassell JR.	207,027	2272

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EXAMINER	
WEISZ, DAVID G	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,394	HASSELL, JAMES CLYDE	
	Examiner	Art Unit	
	DAVID WEISZ	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: several limitations are repeated within the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-7, 9-12 and 14-16 and 18-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griston et al (US 5190103) in view of Remke et al (US 3133437), further in view of Mullen (US 5597950).

Regarding claim 1, Griston discloses a method for obtaining a homogenous sample for compositional analysis of a pressurized multi-phase fluid stream flowing in a pipeline **(C4/L22-30)**, the method comprising:

a. injecting one or more surface active agents ("saa") into the fluid stream in an injection zone at a rate that is sufficient to form a stable uniform foam of the gas and the one or more hydrocarbon liquids and water components **(C3/L55-68)**;

b. mixing the one or more saa with the fluid stream in a mixing zone to form a uniform foam composition **(C3/L55-68)**flowing in the pipeline downstream of the mixing zone **(C4/L55-61)**.

However, the reference does not disclose the fluid stream to consist of a majority component of hydrocarbon gas and the minor component consisting of a minor portion of one or more hydrocarbon liquids and water in liquid streams. Additionally, the reference does not disclose withdrawing a portion of the foam composition from the pipeline at a sampling point; passing the portion of the foam composition withdrawn from the pipeline through a sampling loop that is in communication with the pipeline; removing a sample of predetermined volume of the foam from the sampling loop for compositional analysis; and analyzing the foam to determine the amount of hydrocarbon and water present.

Remke discloses a method of measuring the composition of hydrocarbon and water in a pipeline wherein the fluid stream consisting of a majority component of hydrocarbon gas, the minor component consisting of a minor proportion of one or more hydrocarbon liquids and water in the form of vapor, aerosols, droplets and/or liquid streams **(C1/L10-33)**. Additionally, the reference discloses that it is necessary to accurately measure the water content in order to efficiently produce a well **(C1/L10-33).**

The references are analogous because both references are directed toward analysis of components in a pipeline.

It would have been obvious to one having ordinary skill in the art at the time of the invention to monitor the hydrocarbon and water composition because doing so is necessary to efficiently produce a well.

However, the reference does not disclose withdrawing a portion of the foam composition from the pipeline at a sampling point; passing the portion of the foam composition withdrawn from the pipeline through a sampling loop that is in communication with the pipeline; removing a sample of predetermined volume of the foam from the sampling loop for compositional analysis; and analyzing the foam to determine the amount of hydrocarbon and water present.

Mullen discloses a method of monitoring a surfactant that includes withdrawing a portion of the foam composition from the pipeline at a sampling point **(Figure 1)**; passing the portion of the foam composition withdrawn from the pipeline through a sampling loop that is in communication with the pipeline **(Figure 1)**; removing a sample of predetermined volume of the foam from the sampling loop for compositional analysis **(Abstract)**; and analyzing the foam to determine the amount of hydrocarbon and water present **(C3/L52-65)**. Additionally, the reference discloses that such a continuous measurement can indicate if surfactant level is too high for discharge **(C3/L60-65).**

The references are analogous because both references are directed towards the use of a foam to monitor a surfactant.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the monitoring of Mullen in the method of modified Griston because it is necessary to monitor surfactant levels so as to take anti-foaming measures for discharge.

Regarding claim 2, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the mixing zone includes pumps and meters **(Griston, C4/L22-30).**

Regarding claim 3, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein there is a further step of analyzing the foam sample to determine the relative proportions of hydrocarbon gas, liquid and water content **(Remke, C1/L10-33).**

Regarding claim 4, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein there is a further step of placing the foam sample in a sample container for subsequent analysis **(Mullen, Figure 1).**

Regarding claim 5, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the foam sample is analyzed by an automated in-line analysis apparatus **(Mullen, Figure 2, C2/L10-19).**

Regarding claim 6, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the foam composition is withdrawn from the pipeline through a sampling probe **(Mullen, Figure 1).**

Regarding claim 7, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the foam composition is withdrawn from the pipeline at the sampling point by pumping **(Mullen, C4/L1-4)**.

Regarding claim 9, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method including the further step of injecting a defoaming composition into the flowing fluid downstream of the sampling point **(Mullen, C3/L52-65).**

Regarding claim 10, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the foam composition passes through a flow meter that is in fluid communication with the sampling loop **(Griston, C4/L31-39)**.

Regarding claim 11, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the one or more surfactants is selected from the group consisting of fluorocarbon, cationic, anionic and non-ionic compounds **(Griston, C3/L55-69).**

Regarding claim 12, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the surfactant is alpha-olefin sulfonate **(Griston, C3/L55-69).**

Regarding claim 14, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the pressure of the foam composition in the sample container at the time of filling the container is the same as the pressure in the sampling loop **(Griston, Figure 2).**

Regarding claim 15, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the injection and mixing zones are the same **(Griston, C4/L22-30).**

Regarding claim 16, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the foaming agent includes a component for creating caustic conditions **(Griston, C3/L55-69).**

Regarding claim 18, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the method wherein the analysis is used for determining the composition of the fluid stream downstream of a well head **(C4/L55-61).**

Regarding claim 19, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses an apparatus for obtaining a compositional analysis is of a homogeneous sample of a multi-phase pressurized fluid stream flowing through a pipeline **(Griston, C4/L22-30)**, where the fluid stream includes a hydrocarbon gas as a major component and a minor component consisting of one or more hydrocarbon liquids and water mixed with the gas **(Remke, C1/L10-33)**, the apparatus comprising:

a. injection means for adding a predetermined amount of one or more surface active agents to the fluid stream **(Griston, C3/L55-68)**;

b. means for mixing the one or more surface active agents with the components of the fluid stream **(Griston, C3/L55-68)** in a mixing zone to form a uniform foam composition in the pipeline **(Griston, C4/L55-61)**;

c. a sampling probe located in a sampling zone in the pipeline downstream of the mixing zone for removing a portion of the foam composition from the pipeline **(Mullen, Figure 1)**;

d. a sampling conduit on the exterior of the pipeline in fluid communication with the probe **(Mullen, Figure 1)**;

e. sample removal means for withdrawing a predetermined volume of the foam composition from the exterior sampling conduit **(Mullen, Figure 1)**; and

f. analytical means for identifying the hydrocarbon and water components of the foam sample **(Mullen, Figure 1)**.

Regarding claim 20, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the end of the sampling conduit opposite the sampling probe is in fluid communication with the interior of the pipeline **(Mullen, Figure 1)**.

Regarding claim 21, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the mixing means is selected from the group consisting of jet injectors, in-line static mixers, screens, strainers, pumps, conduit bends, and combinations thereof **(Griston, C4/L22-30)**.

Regarding claim 22, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein a plurality of surface active agents are pre-mixed before addition to the fluid stream **(Griston, C4/L22-30)**.

Regarding claim 23, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the injection means comprises a metering pump for each of the one or more surface active agents to be added to the fluid stream **(Griston, C4/L31-39)**.

Regarding claim 24, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus further comprising defoaming means positioned downstream of the sampling probe for injecting a defoaming composition into the fluid stream **(Mullen, C3/L52-65)**.

Regarding claim 25, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses an apparatus for providing a homogeneous sample of a multi-phase pressurized fluid stream flowing through a pipeline **(Griston, C4/L22-30)**, where the fluid stream includes a hydrocarbon gas as a major component and one or more hydrocarbon liquids and water mixed with the gas **(Remke, C1/L10-33)**, the apparatus comprising:

a. injection means for adding a predetermined amount of one or more surface active agents to the fluid stream **(Griston, C3/L55-69)**;

b. means for mixing the one or more surface active agents with the components of the fluid stream in a mixing zone to form a uniform foam composition in the pipeline **(Griston, C3/L55-68)**;

c. a sampling probe located in a sampling zone in the pipeline downstream of the mixing zone for removing a portion of the foam composition from the pipeline **(Mullen, Figure 1)**;

d. a sampling conduit on the exterior of the pipeline in fluid communication with the probe **(Mullen, Figure 1)**; and

e. sample removal means for withdrawing a predetermined volume of the foam composition from the exterior sampling conduit **(Mullen, Figure 1)**.

Regarding claim 26, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the end of the sampling conduit opposite the sampling probe is in fluid communication with the interior of the pipeline **(Mullen, Figure 1)**.

Regarding claim 27, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the mixing means is selected from the group consisting of jet injectors, in-line static mixers, screens, strainers, pumps, conduit bends, and combinations thereof **(Griston, C4/L22-30)**.

Regarding claim 28, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein a plurality of surface active agents are pre-mixed before addition to the fluid stream **(Griston, C4/L22-30)**.

Regarding claim 29, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the injection means comprises a metering pump for each of the one or more surface active agents to be added to the fluid stream **(Griston, C4/L31-39)**.

Regarding claim 30, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus further comprising defoaming means positioned downstream of the sampling probe for injecting a defoaming composition into the fluid stream **(Mullen, C3/L52-65)**.

Regarding claim 31, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses apparatus for creating a homogeneous gas-liquid mixture for sampling comprising: an injection zone including injection means having a discharge port in fluid communication with a moving a stream of gas-liquid mixture contained in a pipeline **(Griston, C4/L22-30)** for injecting a foam-generating surfactant agent into the gas-liquid stream **(Mullen, Figure 1)**; a downstream mixing zone that includes mixing means for mixing the surfactant and the gas-liquid stream to induce a uniform foam composition **(Griston, C4/L55-61)**; and a sampling zone downstream of the mixing zone that includes sampling means for removing a sample of the foam composition from the stream in the pipe **(Mullen, Figure 1)**.

Regarding claim 32, modified Griston discloses all of the claim limitations as set forth above. Additionally, the reference discloses the apparatus wherein the induced foaming results in a substantially homogeneous fluid stream in the sampling zone, said apparatus further comprising a sample probe for sampling the substantially homogeneous fluid stream at the sampling position **(Griston, C3/L55-69)**.

4. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griston et al (US 5190103) in view of Remke et al (US 3133437), in view of Mullen (US

5597950) as applied to claims 1-7, 9-12, 14-16 and 18-32, further in view of Walker et al (US 3135113).

Regarding claims 8 and 17, modified Griston discloses all of the claim limitations as set forth above. However, the reference does not disclose that the sampling point is located at a custody transfer point, or that analysis takes place at the custody transfer point.

Walker discloses a method of monitoring the contents of a pipeline at a custody transfer point. Additionally, the reference discloses that doing this at a custody transfer point maintains quality standards of the oil transferred and increases accuracy of measurement **(Col1/L10-35).**

The references are analogous because they are directed toward monitoring of oil and oil components in a pipeline.

It would have been obvious to one having ordinary skill in the art at the time of the invention to monitor the contents of a pipeline at a custody transfer point because it maintains quality standards of the oil transferred and increases accuracy of measurements.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griston et al (US 5190103) in view of Remke et al (US 3133437) in view of Mullen (US 5597950) as applied to claims 1-7, 9-12, 14-16 and 18-32 above, further in view of Djabbarah et al. (US5 470749).

Regarding claim 13, modified Griston discloses all of the claim limitations as set forth above. However, the reference does not disclose the pressure and temperature of the foam composition in the sampling loop and the pipeline to be substantially the same.

Djabbarah discloses a quality control method, using a foaming surfactant, that maintains constant pressure and temperature **(C3/L28-32).** Additionally, the reference discloses that choosing a proper surfactant is dictated by stable temperature and pressure **(C4/L9-11).**

The references are analogous because they are directed toward an analysis method using foaming surfactants.

It would have been obvious to one having ordinary skill in the art at the time of the invention to maintain temperature and pressure, as done by Djabbarah, in the method of modified Griston because in order to use the appropriate surfactant, stable temperature and pressure for said surfactant is necessary.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID WEISZ whose telephone number is (571)270-7073. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. W./
Examiner, Art Unit 1797

/Arlen Soderquist/
Primary Examiner, Art Unit 1797